<SUPPLEMENT-IV>

ENGINE CONTROL SYSTEM

SECTION EC

EC

CONTENTS

When you read wiring diagrams:
- **Read GI section, “HOW TO READ WIRING DIAGRAMS”.**
- **See EL section, “POWER SUPPLY ROUTING” for power distribution circuit.**

When you perform trouble diagnoses, read GI section, “HOW TO FOLLOW FLOW CHART IN TROUBLE DIAGNOSES” and “HOW TO PERFORM EFFICIENT DIAGNOSIS FOR AN ELECTRICAL INCIDENT”.

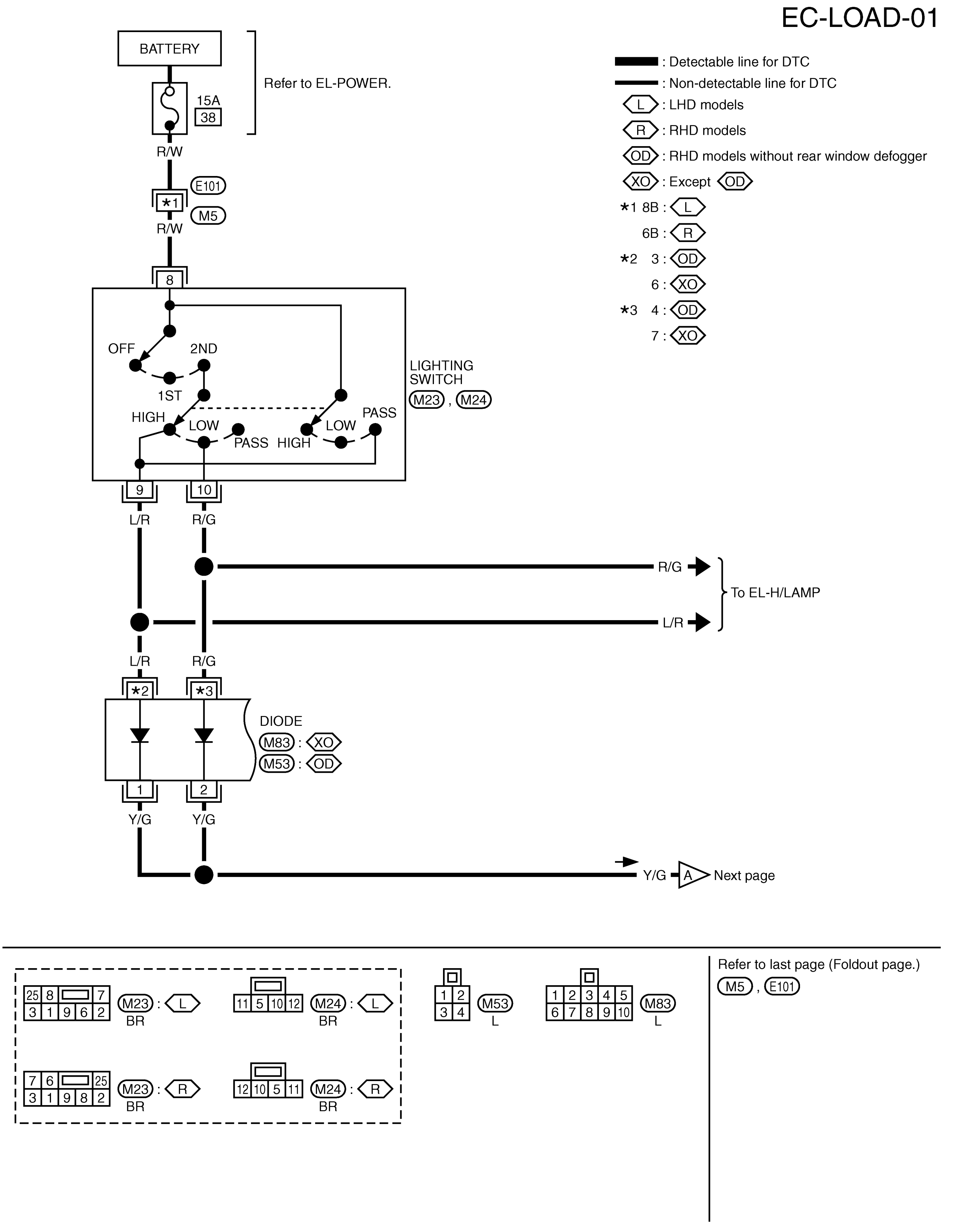
Supplemental Restraint System (SRS) “AIR BAG” and “SEAT BELT PRE-TENSIONER”

The Supplemental Restraint System such as “AIR BAG” and “SEAT BELT PRE-TENSIONER” used along with a seat belt, helps to reduce the risk or severity of injury to the driver and front passenger in a frontal collision. The SRS system composition which is available to NISSAN MODEL D22 is as follows (The composition varies according to the destination and optional equipment.):
Driver air bag module (located in the center of the steering wheel), front passenger air bag module (located on the instrument panel on passenger side), seat belt pre-tensioner, a diagnosis sensor unit, warning lamp, wiring harness and spiral cable.
Information necessary to service the system safely is included in the **RS section** of this Service Manual.

WARNING:

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN dealer.**
- **Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the RS section.**
- **Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. Spiral Cable and wiring harnesses (except “SEAT BELT PRE-TENSIONER”) covered with yellow insulation either just before the harness connectors or for the complete harness are related to the SRS.**

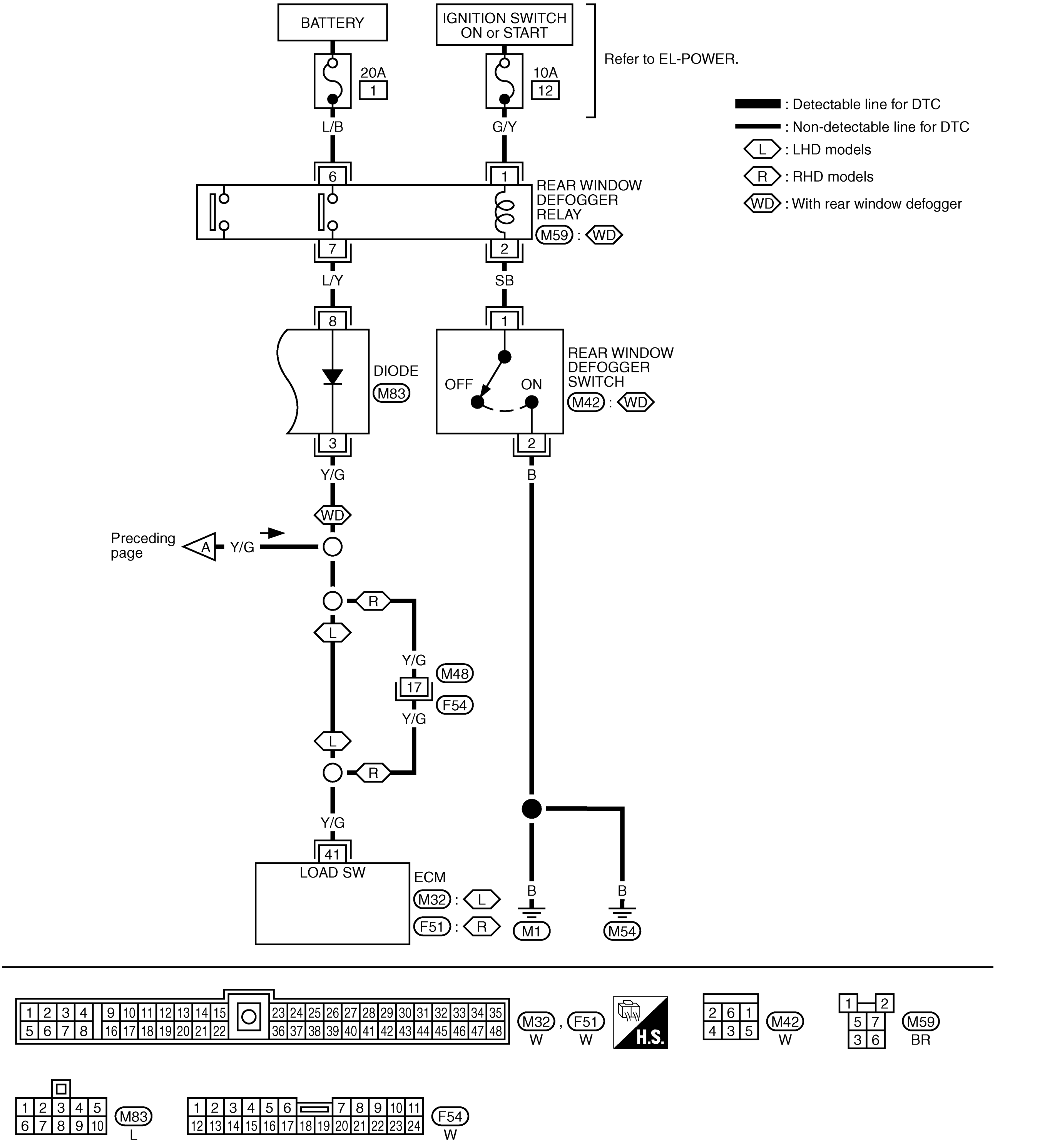
Electrical Load Signal



GEC348A

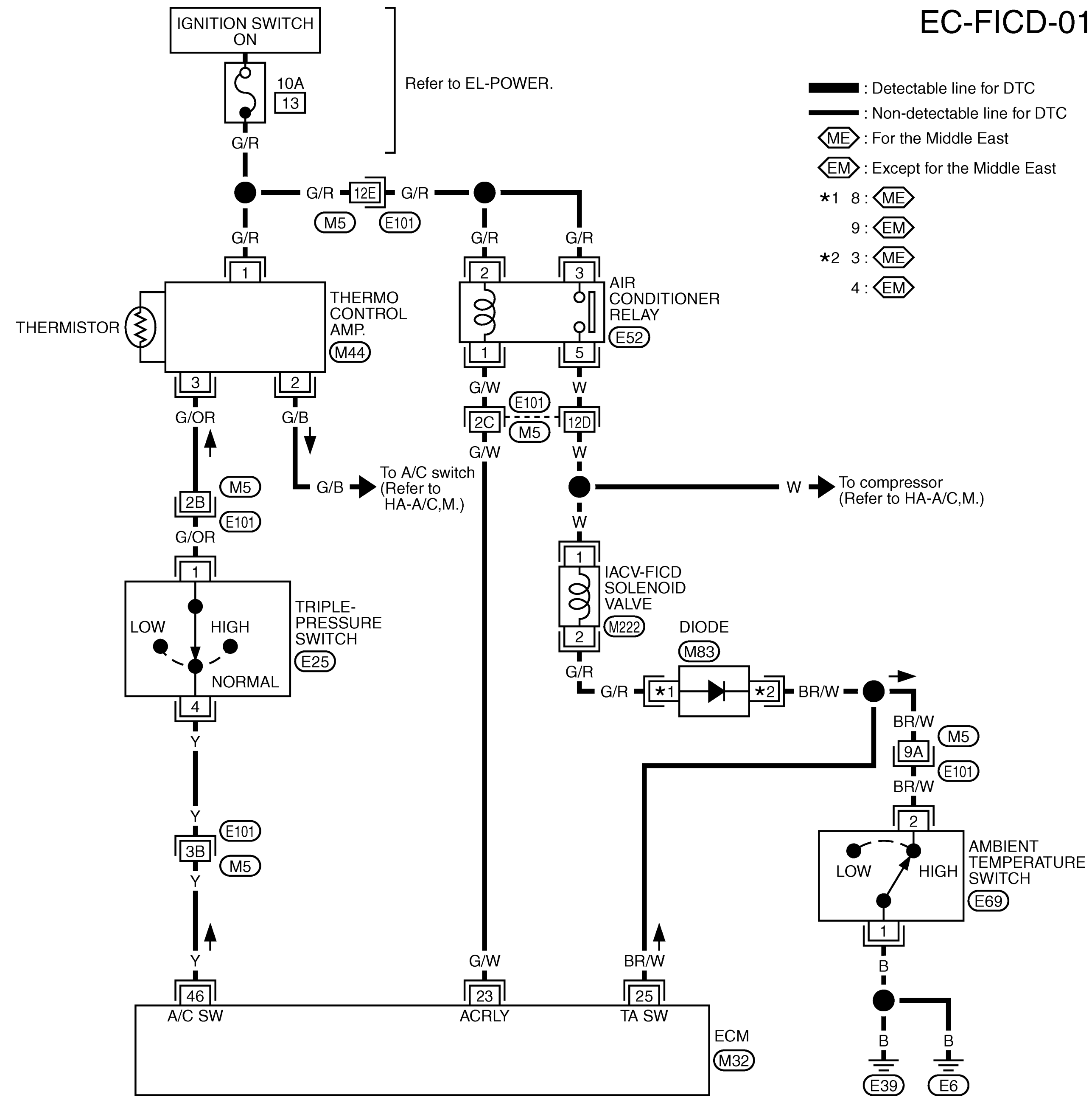
Electrical Load Signal (Cont'd)

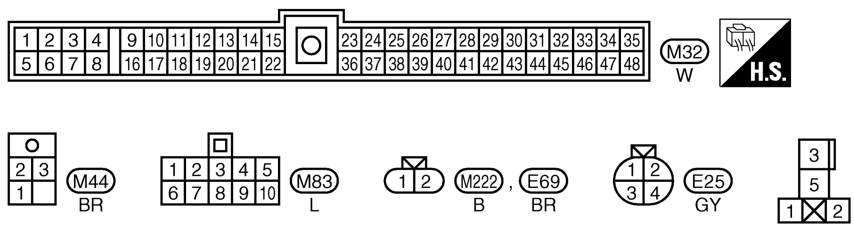
EC-LOAD-02



IACV-FICD Solenoid Valve

FOR LHD MODELS

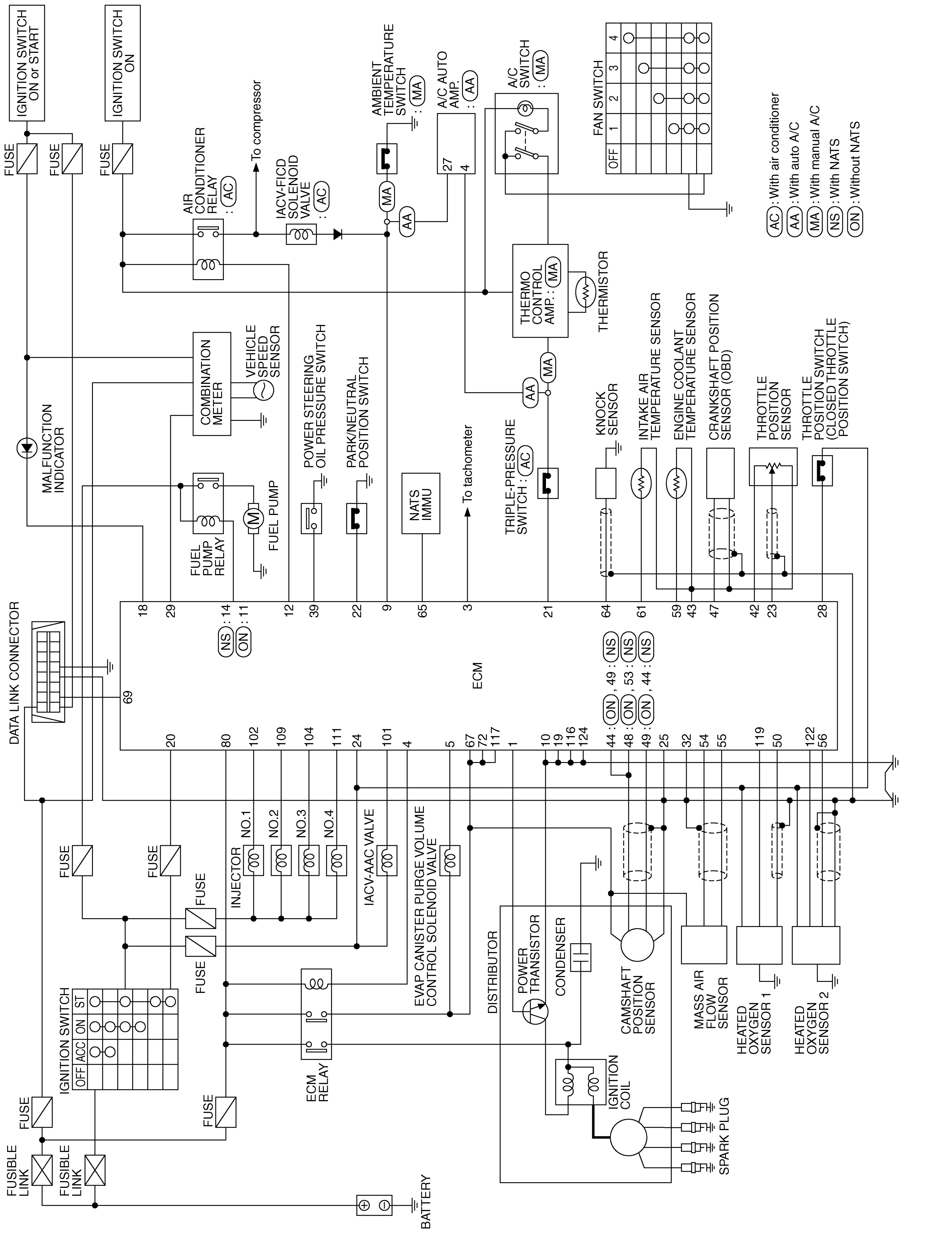




Refer to last page (Foldout page.)
M5 , E101

GEC301A

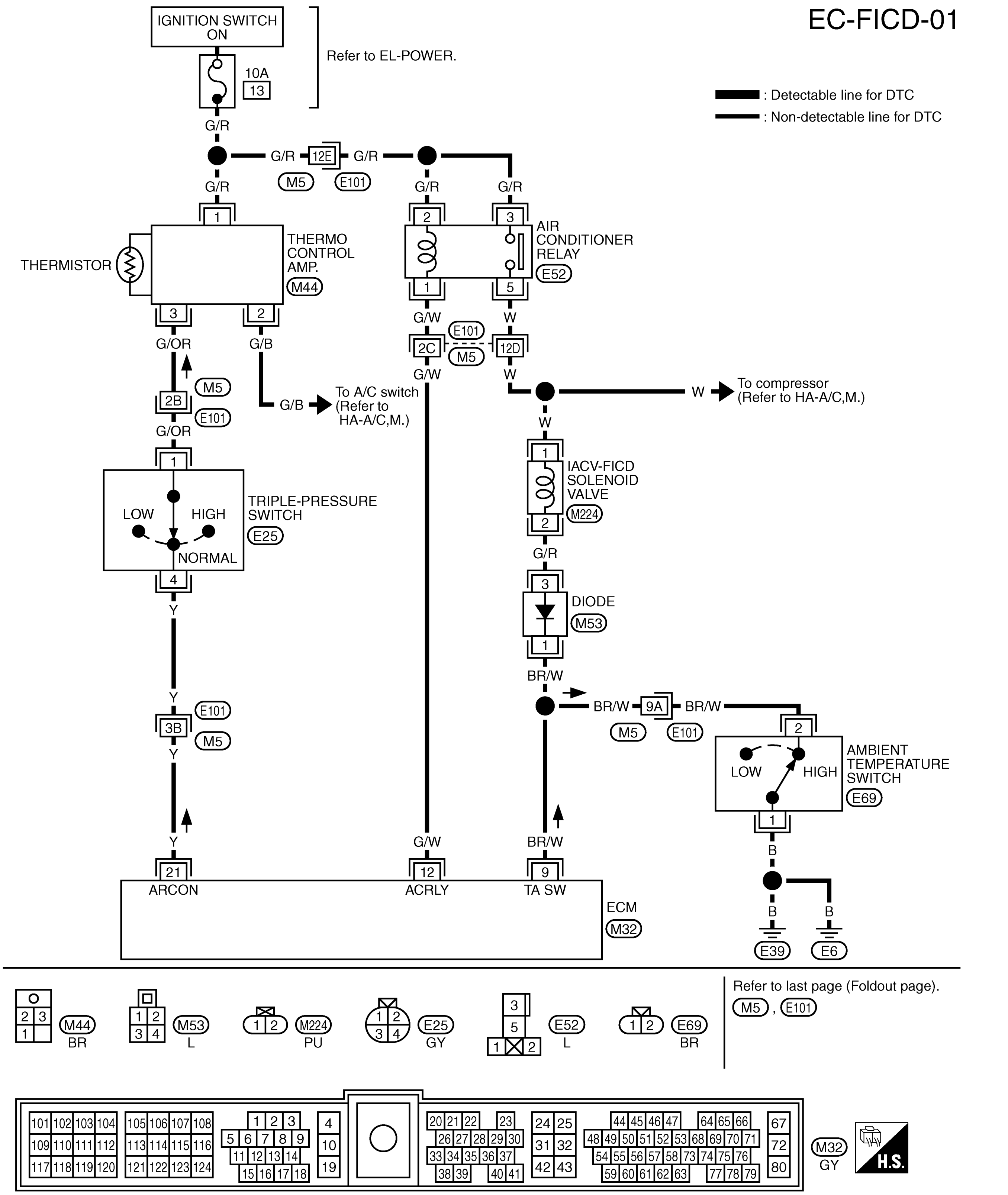
Circuit Diagram



GEC388A

Wiring Diagram

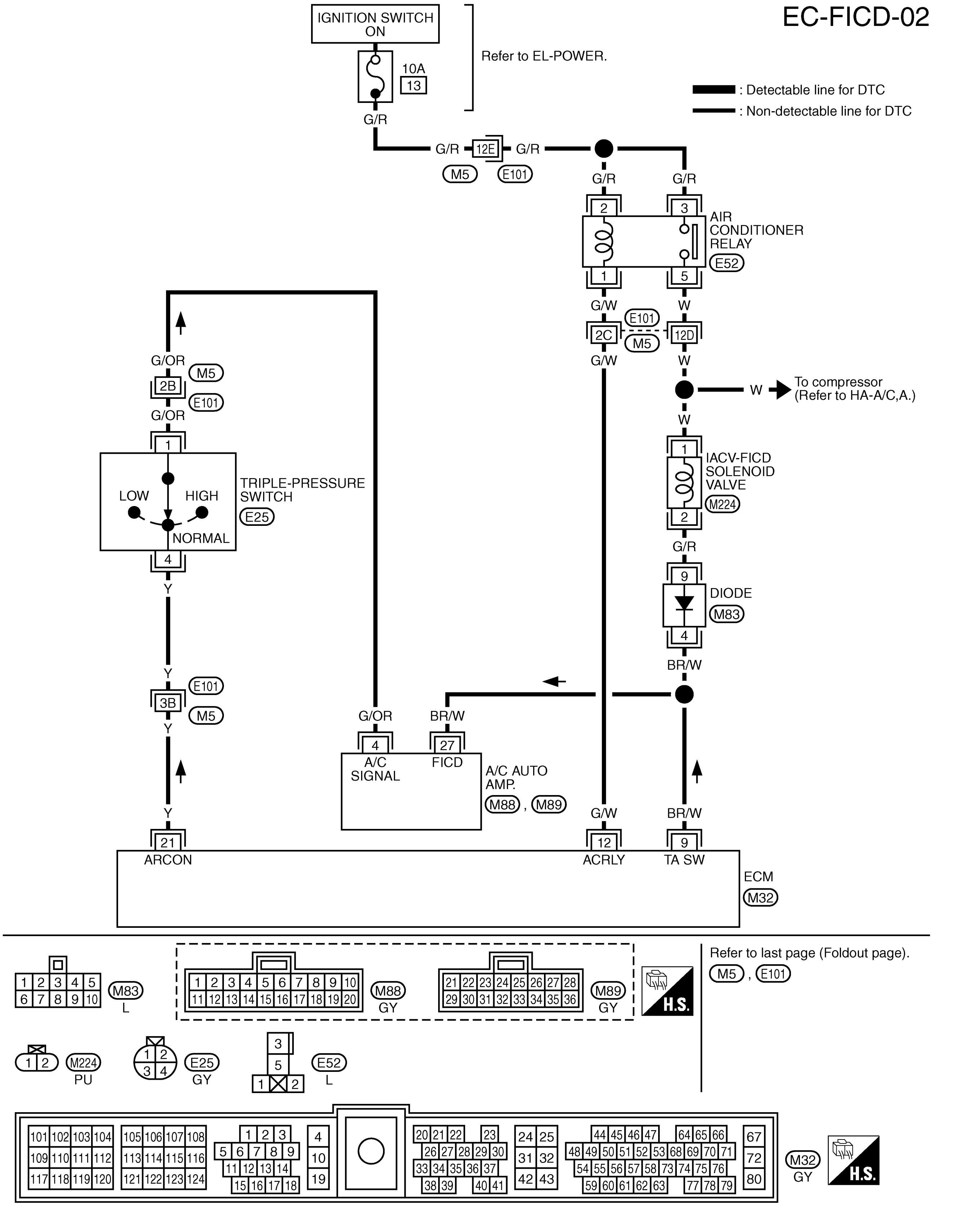
MODEL WITH MANUAL AIR CONDITIONER



GEC389A

Wiring Diagram (Cont'd)

MODEL WITH AUTO AIR CONDITIONER

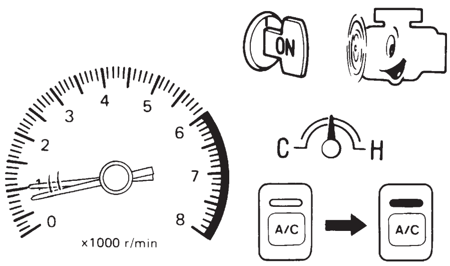


GEC390A

Diagnostic Procedure

1	CHECK OVERALL FUNCTION

1. Start engine and warm it up to normal operating temperature.
2. Check idle speed.
   700±50 rpm
   If NG, adjust idle speed.
3. Push air conditioner switch ON and turn fan switch to 4-speed.
4. Recheck idle speed.



MEF634E

850 rpm or more

OK or NG

OK ▶	**INSPECTION END**
NG ▶	GO TO 2.

2	CHECK AIR CONDITIONER FUNCTION

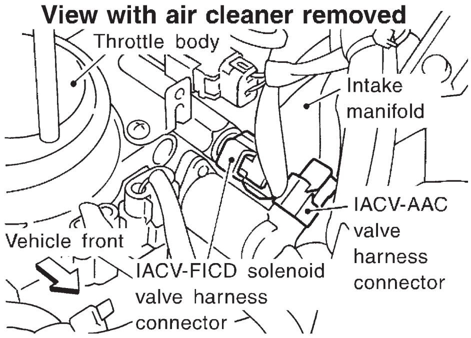
Check if air conditioner compressor functions normally.

OK or NG

OK ▶	GO TO 3.
NG ▶	Refer to “Symptom Table” in “TROUBLE DIAGNOSIS”, HA section.

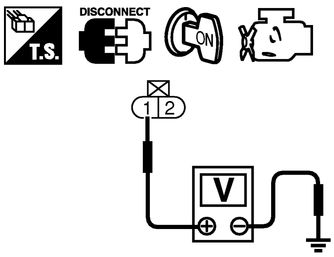
3	CHECK POWER SUPPLY

1. Stop engine.
2. Disconnect IACV-FICD solenoid valve harness connector.



SEF342V

3. Start engine, then push A/C switch ON and turn fan switch to 4-speed.
4. Check voltage between terminal 1 and ground with CONSULT-II or tester.



SEC281D

Voltage: Battery voltage

OK or NG

OK ▶	GO TO 5.
NG ▶	GO TO 4.

4	DETECT MALFUNCTIONING PART

Check the following.
- Harness connectors E101, M5
- Harness for open or short between IACV-FICD solenoid valve and air conditioner relay

▶	Repair open circuit, short to ground or short to power in harness or connectors.

5	CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check harness continuity as follows.

Type	Terminal name	Condition			
Model with manual air conditioner	Air conditioner relay terminal 5	+	Continuity should not exist.	–	Continuity should exist.
	Ambient temperature switch termial 2	–		+	
	Diode terminal 1 and ECM terminal 9	Continuity should exist.			
	Ambient temperature switch termial 2 and ECM terminal 9	Continuity should exist.			
	Ambient temperature switch termial 1 and ground	Continuity should exist.			
Model with auto air conditioner	Air conditioner relay terminal 5	+	Continuity should not exist.	–	Continuity should exist.
	ECM terminal 9	–		+	
	Diode terminal 4 and A/C auto amp. terminal 27	Continuity should exist.			
	A/C auto amp. terminal 27 and ECM terminal 9	Continuity should exist.			

MTBL1755

Continuity should exist.

3. Also check harness for short to ground or short to power.

OK or NG

OK ►	GO TO 7.
NG ►	GO TO 6.

6	DETECT MALFUNCTIONING PART

MANUAL AIR CONDITIONER

Check the following.
- IACV-FICD solenoid valve
- Ambient temperature switch
- Diode M53
- Harness connectors M5, E101
- Check the harness for open or short between air conditioner relay and ambient temperature switch
- Check the harness for open or short between diode M53 and ECM
- Check the harness for open or short between ambient temperature switch and ECM
- Check the harness for open or short between ambient temperature switch and ground

AUTO AIR CONDITIONER

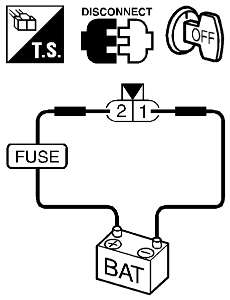
Check the following.
- Harness connectors E101, M5
- IACV-FICD solenoid valve
- Diode M83
- Check the harness for open or short between air conditioner relay and ECM
- Check the harness for open or short between diode M83 and A/C auto amp
- Check the harness for open or short between A/C auto amp and ECM

►	Repair open circuit or short to power in harness or connectors.

Diagnostic Procedure (Cont'd)

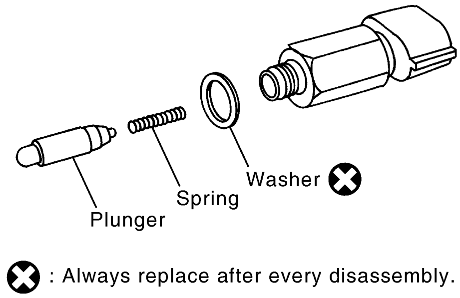
7	CHECK IACV-FICD SOLENOID VALVE

Disconnect IACV-FICD solenoid valve harness connector.



SEF610Y

Check for clicking sound when applying 12V direct current to terminals.
Check plunger for seizing or sticking.
Check for broken spring.



SEC953D

OK or NG

OK	►	GO TO 8.
NG	►	Replace IACV-FICD solenoid valve.

8	CHECK AMBIENT AIR TEMPERATURE SWITCH

Refer to HA section, “TROUBLE DIAGNOSIS”.

OK or NG

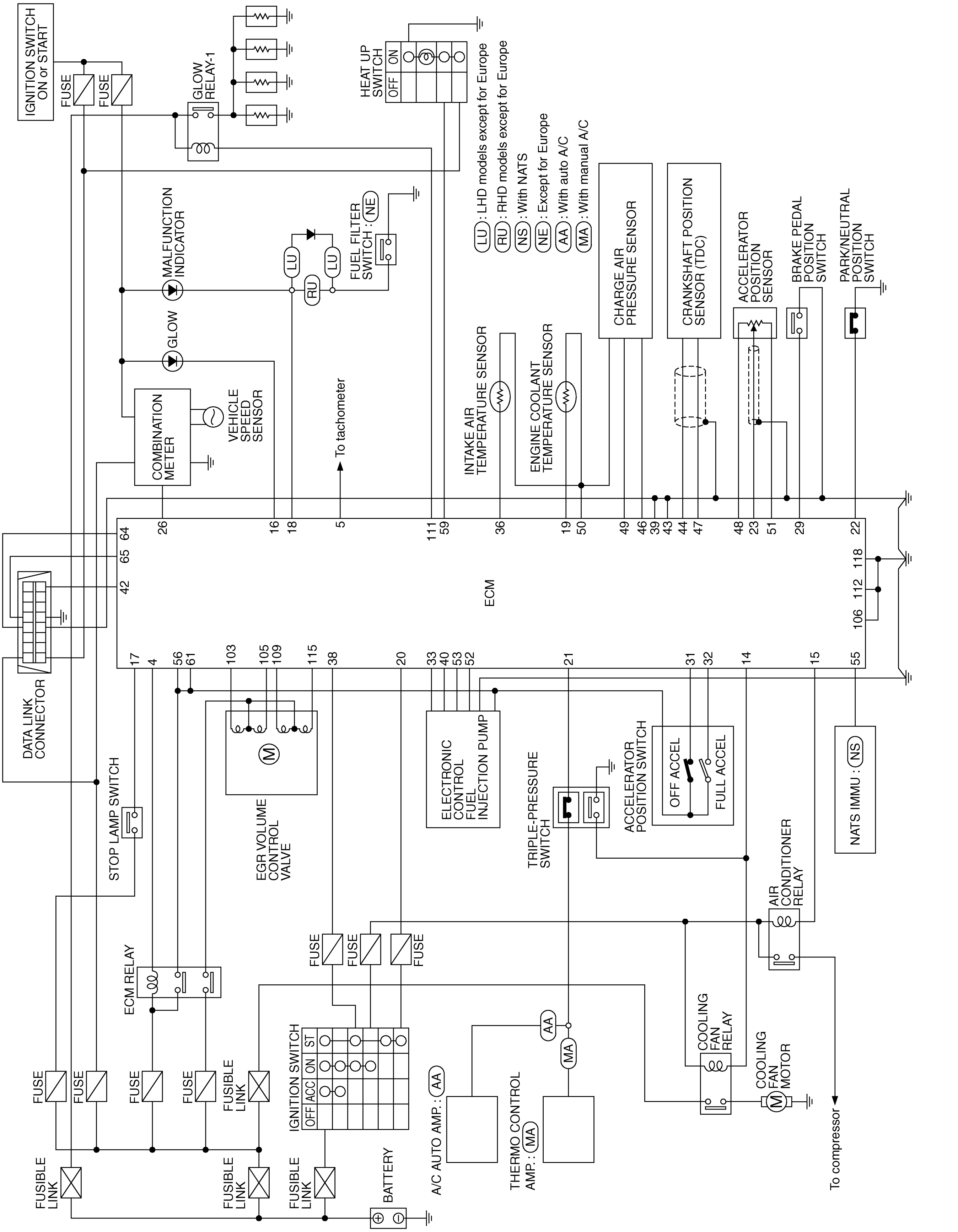
OK	►	GO TO 9.
NG	►	Replace ambient air temperature switch.

9	CHECK INTERMITTENT INCIDENT

Perform “TROUBLE DIAGNOSIS FOR INTERMITTENT INCIDENT”, EC-192 in Service Manual (Pub. No. SM1E-1D22FG1).

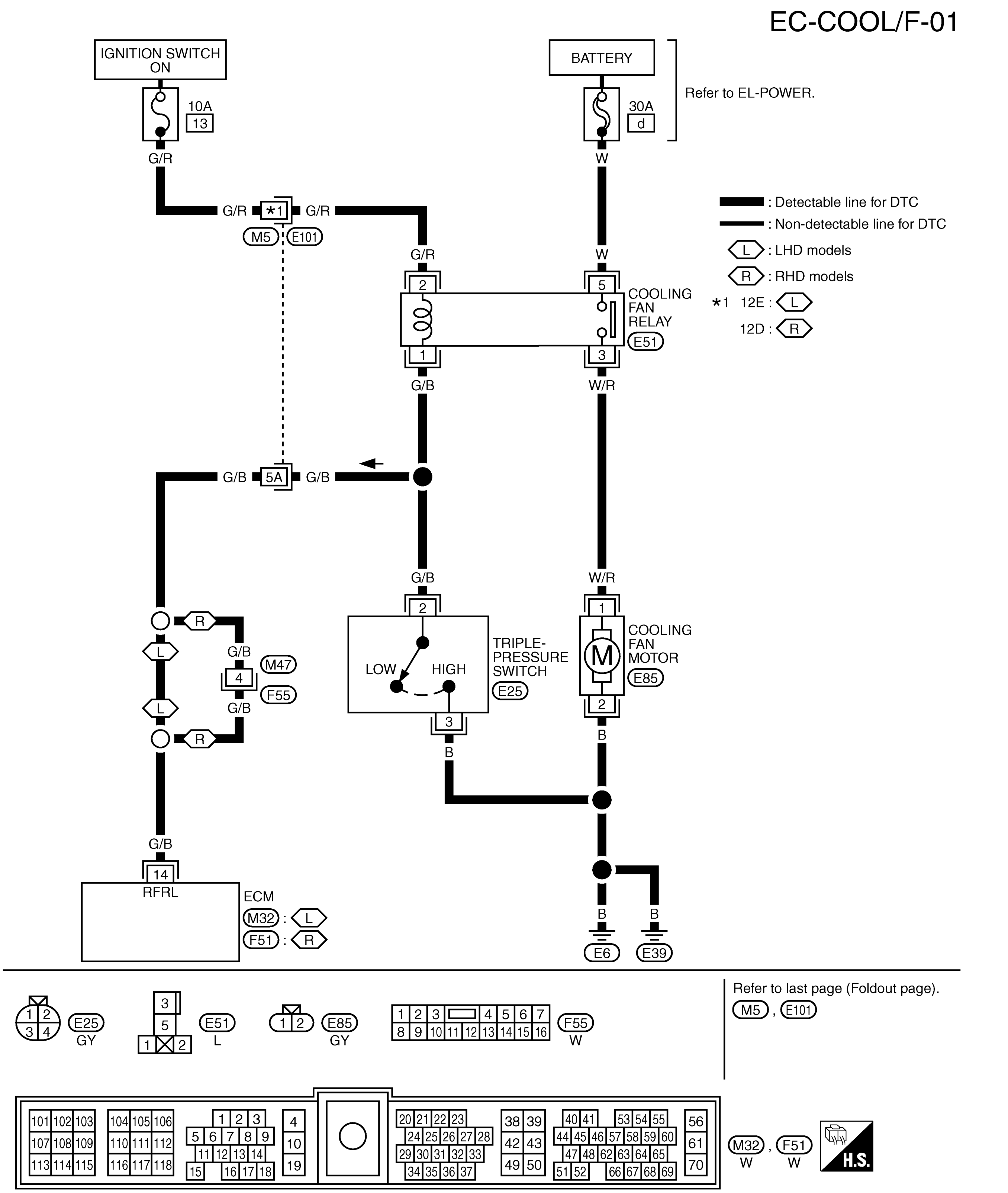
	►	**INSPECTION END**

Circuit Diagram



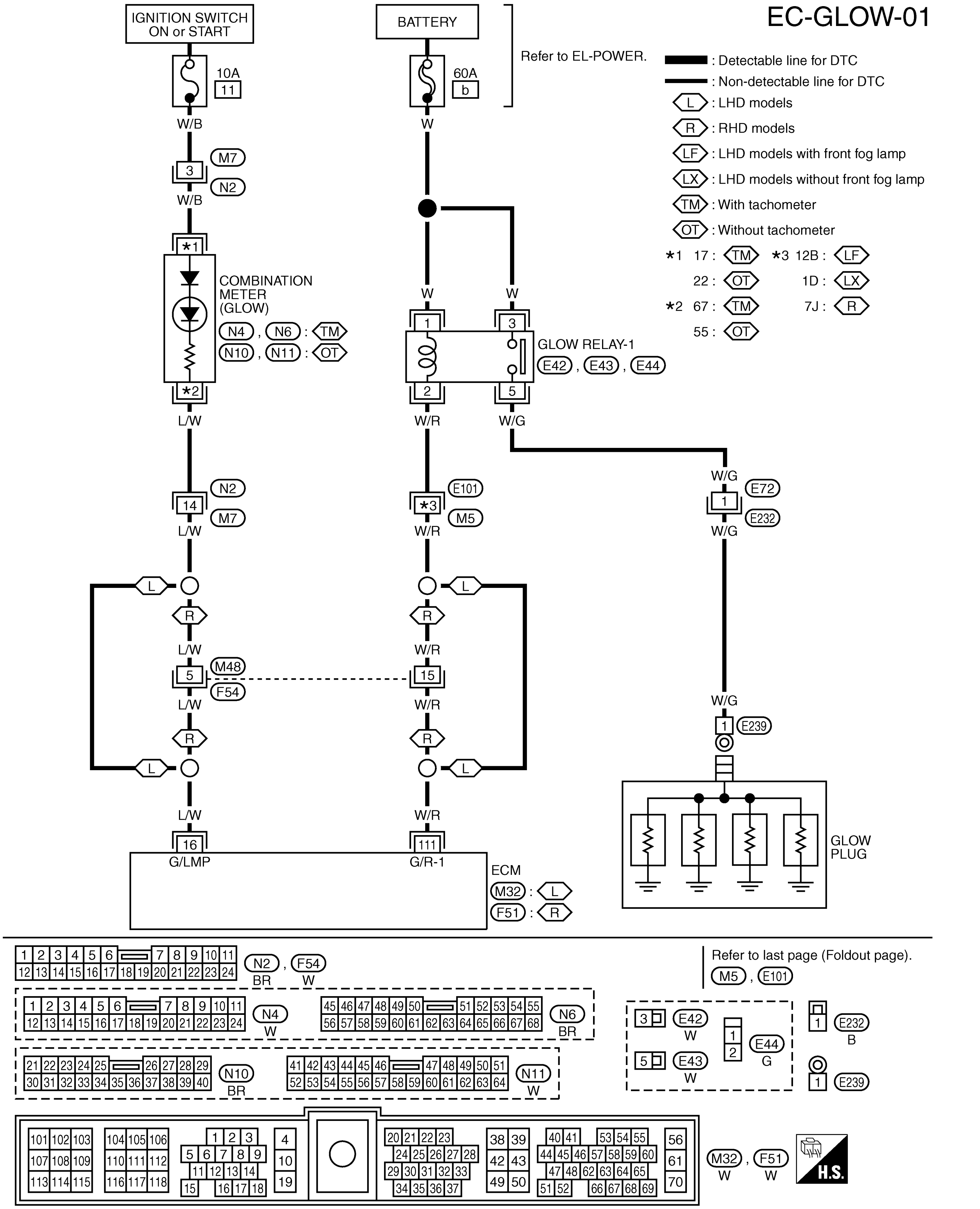
GEC382A

Wiring Diagram



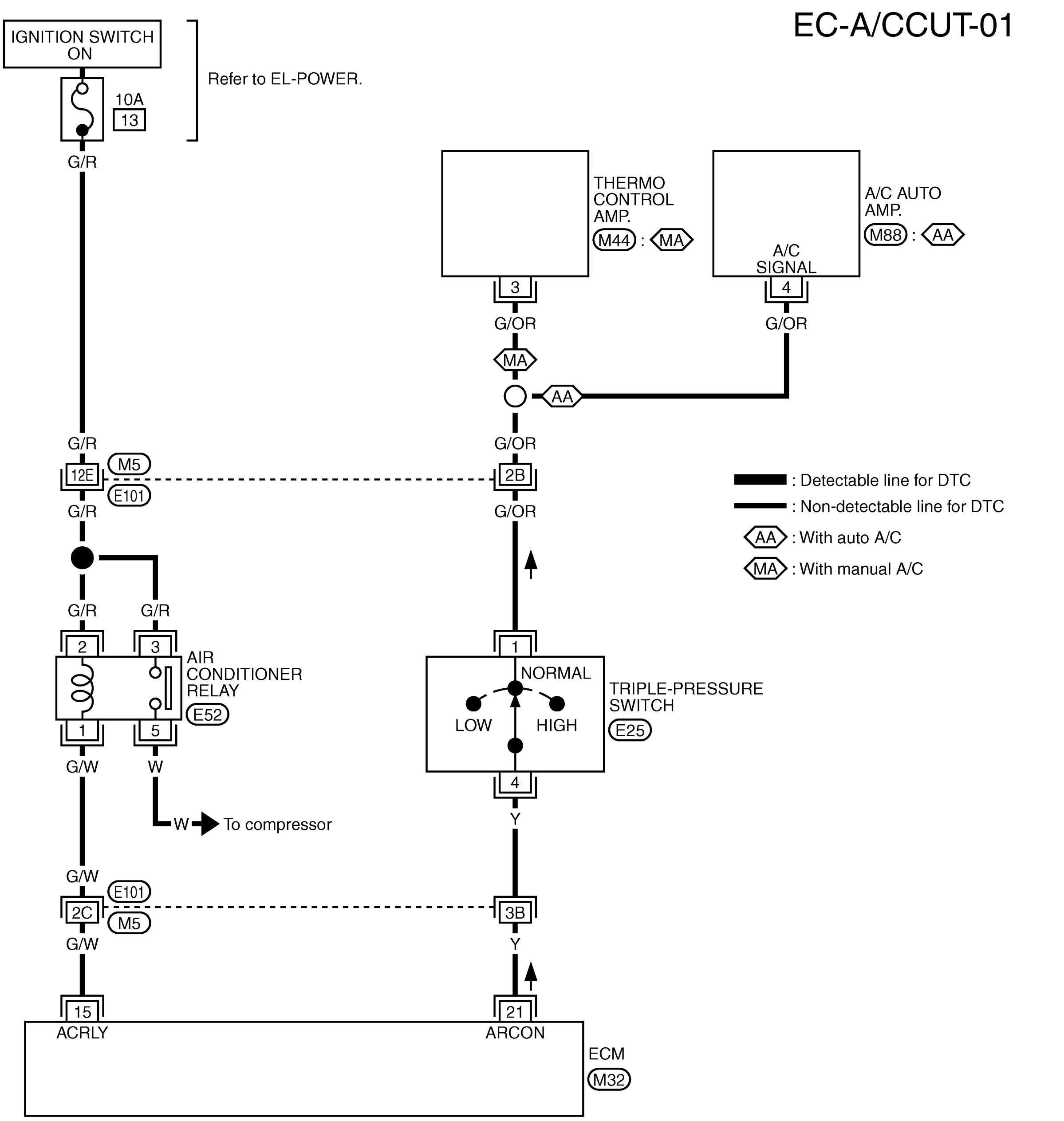
GEC354A

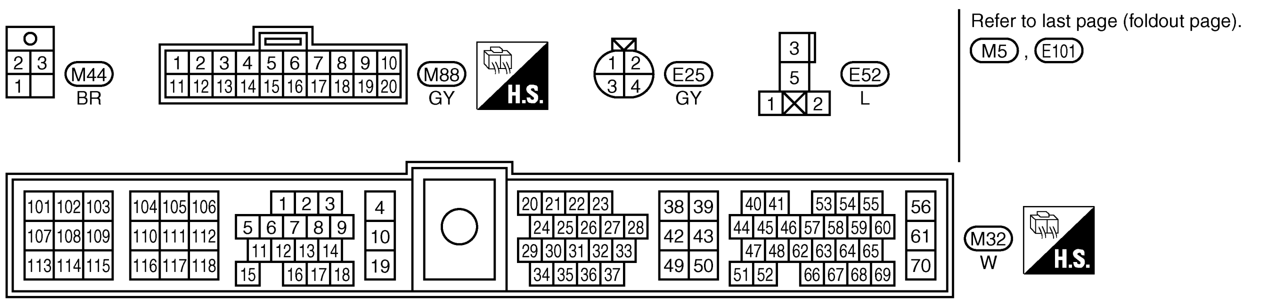
Wiring Diagram



GEC385A

Wiring Diagram





Wiring Diagram (Cont'd)

EC-A/CCUT-02

